Amendments to the Claims

The following listing of claims replaces all prior versions and listings of claims in this application:

Claims 1. to 22. (Cancelled)

23. (Currently Amended) An automatic high-precision cutting method for separating a layer of material from a source substrate comprising:

positioning at least a portion of a semiconductor substrate that has a weakened area and a peripheral annular notch that is located away from the weakened area, [[into]] against a fixed positioning member which maintains the substrate in a predetermined position on a support; and

contacting the substrate with at least one blade to induce a cleaving wave into the substrate, the at least one blade being operatively associated with the positioning member so that it contacts the annular notch while the positioning member prevents movement of the substrate, with the cleaving wave being of sufficient intensity to both divide the substrate at the notch into first and second parts and detach the layer from the substrate along the weakened area.

24. (Original) The method of claim 23 which further comprises self-adjusting the relative positions of the substrate and the at least one blade along a direction perpendicular to the cutting plane as the blade contacts the notch, by cooperation between a cutting edge of the blade and the notch.

25. (Original, Withdrawn) The method of claim 23 which further comprises monitoring the progress of the cleaving wave by analyzing light transmitted through the semiconductor substrate.

26. (Original, Withdrawn) The method of claim 25 which further comprises controlling the movements of the at least one blade with a displacement device depending on the monitored progress of the cleaving wave.

27. (Original, Withdrawn) The method of claim 23 which further comprises monitoring at least one parameter representative of the progress of a cutting operation of a first cutting device during a first cutting phase, and controlling a second cutting device during a second cutting phase as a function of the monitored parameter.

28. (Original, Withdrawn) The method of claim 23 which further comprises attacking the substrate at a first location with a first cutting blade, and attacking the substrate at a second location a distance apart from the first location with at least a second cutting blade.

29. (Original, Withdrawn) The method of claim 28 further comprising attacking the substrate at a third location with a third cutting blade, wherein the first, second and third cutting blades are arranged symmetrically about the annular notch of the semiconductor substrate.

30. (Currently Amended) [[The]] An automatic high-precision cutting method ~~of claim 23, which further comprises~~ for separating a layer of material from a source substrate comprising:

positioning at least a portion of a semiconductor substrate that has a weakened area and a peripheral annular notch that is located away from the weakened area, against a fixed positioning member which maintains the substrate in a predetermined position while supporting the substrate on a support; ~~prior to contact by the at least one blade~~

contacting the substrate with at least one blade to induce a cleaving wave into the substrate, the at least one blade being operatively associated with the positioning member so that it contacts the annular notch while the positioning member prevents lateral movement of the substrate, with the cleaving wave being of sufficient intensity to both divide the substrate at the notch into first and second parts and detach the layer from the substrate along the weakened area; and

moving the support away from the substrate as the blade contacts the annular notch.

31. (Original, Withdrawn) The method of claim 23 which further comprises viewing the progress of the cleaving wave with a sensor through a transparent window located in the support.

32. (New) The method of claim 23 wherein the positioning member is at least one shim oriented vertically with respect to the support and the support is a support substrate that is operatively associated with the positioning member so that the positioning member maintains the position of the semiconductor substrate in a cutting plane that is parallel to the at least one blade and the support member.

33. (New) The method of claim 23 wherein the shim has a contour that corresponds to the contour of the semiconductor substrate and covers at least one quarter of the periphery of the substrate to hold the wafer when contacted by the blade and the at least one blade has a leading edge that has a contour that corresponds to the contour of the semiconductor substrate and covers at least one quarter of the periphery of the substrate.

34. (New). An automatic high-precision cutting method for separating a layer of material from a source substrate comprising:

providing a fixed positioning member adjacent a support;

positioning at least a portion of a semiconductor substrate that has a weakened area and a peripheral annular notch that is located away from the weakened area upon the support and against the positioning member; and

contacting the substrate with at least one blade to induce a cleaving wave into the substrate, the at least one blade being operatively associated with the positioning member so that it contacts the annular notch while the positioning member prevents movement of the substrate, with the cleaving wave being of sufficient intensity to both divide the substrate at the notch into upper and lower parts and detach the layer from the substrate along the weakened area without limiting upward movement of the upper part of the wafer during cleaving.

35. (New) The method of claim 34 which further comprises self-adjusting the relative positions of the substrate and the at least one blade along a direction perpendicular to the cutting plane as the blade contacts the notch, by cooperation between a cutting edge of the blade and the notch.

36. (New) The method of claim 34 which further comprises monitoring the progress of the cleaving wave by analyzing light transmitted through the semiconductor substrate.

37. (New) The method of claim 36 which further comprises controlling the movements of the at least one blade with a displacement device depending on the monitored progress of the cleaving wave.

38. (New) The method of claim 34 which further comprises monitoring at least one parameter representative of the progress of a cutting operation of a first cutting device during a first cutting phase, and controlling a second cutting device during a second cutting phase as a function of the monitored parameter.

39. (New) The method of claim 34 which further comprises attacking the substrate at a first location with a first cutting blade, and attacking the substrate at a second location a distance apart from the first location with at least a second cutting blade.

40. (New) The method of claim 39 further comprising attacking the substrate at a third location with a third cutting blade, wherein the first, second and third cutting blades are arranged symmetrically about the annular notch of the semiconductor substrate.

41. (New) The method of claim 34, which further comprises supporting the substrate on a support prior to contact by the at least one blade and moving the support away from the substrate as the blade contacts the annular notch.

42. (New) The method of claim 34 which further comprises viewing the progress of the cleaving wave with a sensor through a transparent window located in the support.

43. (New) The method of claim 34 wherein the positioning member is at least one shim oriented vertically with respect to the support and the support is a support substrate that is operatively associated with the positioning member so that the positioning member maintains the

position of the semiconductor substrate in a cutting plane that is parallel to the at least one blade and the support member.

44. (New) The method of claim 34 wherein the shim has a contour that corresponds to the contour of the semiconductor substrate and covers at least one quarter of the periphery of the substrate to hold the wafer when contacted by the blade and the at least one blade has a leading edge that has a contour that corresponds to the contour of the semiconductor substrate and covers at least one quarter of the periphery of the substrate.